What is claimed is:

1. A method for encoding a data signal, comprising:
encoding the data signal into an encoded data signal, wherein the encoded data signal is a first DC-balanced signal; and
spreading the encoded data signal with a spreading code to generate an output transmission signal, wherein the output transmission signal is a second DC-balanced signal.

2. The method as claimed in claim 1, wherein the Manchester Code is used to encode the data signal.

3. The method of claim 1 wherein the encoded data signal comprises the data signal and an inversion of the data signal.

4. The method of claim 1 wherein the encoded data signal comprises the data signal and a reversed inversion of the data signal.

5. The method of claim 1 wherein each bit in the data signal corresponds to two bits in the encoded data signal exclusively.

6. A method for encoding a data signal, comprising the steps of:
spreading the data signal with a spreading code to generate a transmission signal, wherein the transmission signal corresponds to the data signal; and

encoding the transmission signal into an output transmission signal, wherein the output transmission signal contains bits, the value of each bit is either a first value or a second value, and the number of bits with the first value is equal to the number of bits with the second value in the output transmission signal;

wherein the output transmission signal is a DC-balanced signal.

7. The method of claim 6, wherein the Manchester Code is used to encode the transmission signal.

8. The method of claim 6 wherein the output transmission signal comprises the transmission signal and an inversion of the transmission signal.

9. The method of claim 6 wherein the output transmission signal comprises the transmission signal and a reversed inversion of the transmission signal.

10. The method of claim 6 wherein each bit in the data signal corresponds to two bits in the encoded data signal exclusively.

11. A method for encoding a data signal, comprising:

generating a spreading code, wherein the spreading code contains a direct current (DC) component;

encoding the spreading code into an encoded spreading code, wherein the encoded spreading code is a first DC-balanced signal ; and

spreading the data signal with the encoded spreading code to generate an output transmission signal, wherein the output transmission signal is a second DC-balanced signal.

12. The method of claim 11, wherein the Manchester Code is used to encode the spreading code.

13. The method of claim 11 wherein the encoded spreading code comprises the spreading code and an inversion of the spreading code.

14. The method of claim 11 wherein the encoded spreading code comprises the spreading code and a reversed inversion of the spreading code.

15. The method of claim 11 wherein each bit in the spreading code corresponds to two bits in the encoded spreading code exclusively.

16. The method of claim 11 wherein the spreading code is a Barker code, and the sequence of the Barker code is {1,1,1,0,0,0,1,0,0,1,0}.

17. The method of claim 11 wherein the spreading code is a Pseudo random Noise (PN) sequence.

18. An apparatus for encoding a data signal, comprising:

an encoder for encoding the data signal into an encoded data signal and outputting the encoded data signal, wherein the encoded data signal is a first DC-balanced signal;

a spreading code generator for outputting a spreading code; and

a spreader coupling to the spreading code generator and the encoder, for spreading the encoded data signal according to the spreading code and outputting an output transmission signal;

wherein the output transmission signal is a second DC-balanced signal.

19. The apparatus of claim 18, wherein the Manchester Code is used to encode the data signal.

20. The apparatus of claim 18 wherein the encoded data signal comprises the data signal and an inversion of the data signal.

21. The apparatus of claim 18 wherein the encoded data signal comprises the data signal and a reversed inversion of the data signal.

22. The apparatus of claim 18 wherein each bit in the data signal corresponds to two bits in the encoded data signal exclusively.

23. The apparatus of claim 22 wherein the two corresponding bits in the encoded data signal are the first value and the second value respectively if the bit in the data signal is the first value, and the two corresponding bits in the encoded data signal are the second value and the first value respectively if the bit in the data signal is the second value.

24. The apparatus of claim 18 further comprising:
a modulator for modulating the output transmission signal using a carrier wave to obtain a modulated signal; and
an output device for outputting the modulated signal.

25. An apparatus for encoding a data signal, comprising:
a spreading code generator for outputting a spreading code;
a spreader coupled to the spreading code generator, for spreading the data signal according to the spreading code, and outputting a transmission signal; and
an encoder coupled to the spreader, for encoding the transmission signal and outputting an output transmission signal, wherein the output transmission signal contains bits, the value of each bit is either a first value or a second value, and the number of bits with the first value is equal to the number of bits with the second value in the encoded data signal;
wherein the output transmission signal is a DC-balanced signal.

26. The apparatus of claim 25, wherein the Manchester Code is used to encode the data signal.

27. The apparatus of claim 25 wherein the output transmission signal comprises the transmission signal and an inversion of the transmission signal.

28. The apparatus of claim 25 wherein the output transmission signal comprises the transmission signal and a reversed inversion of the transmission signal.

29. The apparatus of claim 25 wherein each bit in the transmission signal corresponds to two bits in the output transmission signal exclusively.

30. An apparatus for encoding a data signal, comprising:

a spreading code generator for outputting a spreading code, wherein the spreading code contains a direct current (DC) component;

an encoder coupling to the spreading code generator, for encoding the spreading code and outputting an encoded spreading code, wherein the encoded spreading code is a first DC-balanced signal ;

a spreader coupled to the encoder, for spreading the data signal according to the encoded spreading code, and outputting an output transmission signal; and

wherein the output transmission signal is a second DC-balanced signal.

31. The apparatus of claim 30, wherein the Manchester Code is used to encode the data signal.

32. The apparatus of claim 30 wherein the encoded spreading code comprises the spreading code and an inversion of the spreading code.

33. The apparatus of claim 30 wherein the encoded spreading code comprises the spreading code and a reversed inversion of the spreading code.

34. The apparatus of claim 30 wherein each bit in the spreading code corresponds to two bits in the encoded spreading code exclusively.

35. The apparatus of claim 30 wherein the spreading code is a Barker code, and the sequence of the Barker code is {1,1,1,0,0,0,1,0,0,1,0}.

36. The apparatus of claim 35 wherein the encoded spreading code comprises an encoded Barker code, and the encoded Barker code is obtained by deleting one of the fourth, fifth, sixth, eighth, ninth, or eleventh bits of the Barker code.

37. The apparatus of claim 30 wherein the spreading code is a Pseudo random Noise (PN) sequence.

38. The apparatus of claim 30 further comprising:

a modulator for modulating the output transmission signal using a carrier wave to obtain a modulated signal; and

an output device for outputting the modulated signal.